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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/549,559 | 04/14/2000 | Mats Cedervall | 040000-702 | 9223 |
| 27045 | 7590 | 12/28/2004 | EXAMINER | |
| ERICSSON INC. 6300 LEGACY DRIVE M/S EVR C11 PLANO, TX 75024 | | | CHANG, EDITH M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2637 | |

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|----------------------------------|--|
| Office Action Summary | Application No. 09/549,559 | Applicant(s) CEDERVALL ET AL. | |
| | Examiner Edith M Chang | Art Unit 2637 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “one or more antennas” cited in claims 30 and 31 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Figure 2 does not correspond to the claim 30 or claim 31 to show the method of the invention cited in the claims.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because the last line needs to be deleted.

Correction is required. See MPEP § 608.01(b).

3. For the formality of the application under the present office practice, applicant(s) is required to replace "Claims" with "I or We Claim", "The Invention Claimed Is" (or the equivalent) before the Claims part of the specification of the instant application. See MPEP 608.01(m).

Claim Objections

4. Claims 30-34 are objected to because of the following informalities:

Claims 30 & 31, line 1: "Method" is suggested changing to "A method".

Claims 32-34, line 1: "Method" is suggested changing to "The method".

Claims 30 & 31, line 2: "the desired" is suggested changing to "a desired"; line 5: "a signal" is suggested changing to "the received combination signal", "noise, interference" is suggested changing to "a noise component, an interference component"; line 7: "signal" is suggested changing to "combination signal", "real" is suggested changing to "real part"; line 8: "noise and" is suggested changing to "noise component and the"; line 17: "channel" is suggested changing to "communication channel", "coefficient" is suggested changing to "with channel coefficients"; line 18: "coefficient" is suggested changing to "coefficients"; line 20: "signal" is suggested changing to "desired signal"; line 24: "coefficient" is suggested changing to "coefficients".

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Claim 32, line 2: "procedure" is suggested changing to "procedure estimates", "is estimated" is suggested changing to "of the filtered process".

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 30-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 30 & 31,

lines 3-4: "the modulated transmitted desired signal" lacks antecedent basis;

lines 5-6: "the distorted desired signal" lacks antecedent basis;

lines 10: "an equation" is undefined, it does not clearly indicate which or what equation described in the specification of this invention;

line 12: "the signal structure" lacks antecedent basis;

line 13: "the filter parameters" lacks antecedent basis;

line 15: "said filter parameters" lacks antecedent basis, "the foregoing step" does not clearly indicate which step listed/mentioned/occurring before;

line 18: "said filter parameters" lacks antecedent basis;

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line 22: “an equalization method” is undefined, it does not clearly indicate the “an equalization method” is another method than the “Method” claimed, a method done/of a equalizer, or a method called “equalization method”;

Claim 30, line 27: “the filter process” lacks antecedent basis.

Claims 32-34 are dependent on the rejected claim 30.

Allowable Subject Matter

7. Claims 30-34 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or suggest, alone or in a combination, among other things, at least a method of rejection of noise and interference from a received combination signal as a whole, the combination of elements and features, which includes modeling the noise component and the interference component of the received combination signal as a filtered process using a model for colored noise; the filter parameters of the filtered process is selected by an order estimation procedure wherein an adaptive order estimation procedure is used to choose an order of the filtered process or wherein a suboptimal method is used for estimation of the desired signal.

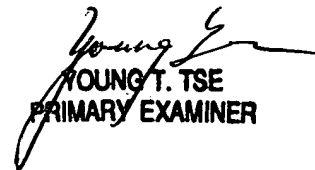
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edith Chang
December 21, 2004


YOUNG T. TSE
PRIMARY EXAMINER